AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A pulse-type gas concentration measurement system, comprising:

a sensor disposed in a specific environment, outputting a first signal and a second signal, wherein the sensor ~~having~~ has a voltage input element, an output element and a sensing element;

a pulse power supply module, connected to the voltage input element, sending a variable pulse-modulated voltage and a square-wave pulse with a detection voltage to the sensor through the voltage input element; and

a processing device, connected to the output element of the sensor, storing a plurality of chemical matter characteristics signals, determining the detection voltage according to the first signal from the sensor and comparing the first signal with the chemical matter characteristics signals to determine composition of the gas and concentration of respective constituents of the gas, and comparing the second signal from the sensor to the chemical matter characteristics signal to determine the concentration of respective constituents of the gas ~~connected to the output element of the sensor;~~

~~when the pulse power supply module sends a variable pulse-modulated voltage to the sensor through the voltage input element, the sensor outputs a first signal to the processing device through the output element, and the processing device determines a detection voltage according to the first signal and compares the first signal with the chemical matter characteristics signals to determine composition of the gas and concentration of respective constituents of the gas; when the pulse power supply module sends a square-wave pulse with the detection voltage to the sensor through the voltage input element, the sensor outputs a second signal to the~~

~~processing device through the output element, and the processing device compares the second signal to the chemical matter characteristics signal to determine the concentration of respective constituents of the gas~~.

2. (Original) The pulse-type gas concentration measurement system according to claim 1, wherein the processing device determines an ideal voltage related to a maximum voltage of the first signal from the variable pulse-modulated voltage, and determines the detection voltage as a voltage larger than the ideal voltage.

3. (Original) The pulse-type gas concentration measurement system according to claim 1, wherein the sensing element comprises a membrane of a metallic oxide.

4. (Original) The pulse-type gas concentration measurement system according to claim 3, wherein the metallic oxide comprises tin oxide (SnO_2).

5. (Original) A method of pulse-type gas concentration measurement, comprising the steps of:

providing a sensor in a specific environment;

sending a variable pulse to the sensor, so that the sensor outputs a first signal corresponding to gas in the specific environment;

comparing the first signal with a plurality of chemical matter characteristics signals to determine a first identification result for the gas;

determining a detection voltage according to the first signal;

sending a square-wave pulse with the detection voltage to the sensor, so that the sensor outputs a second signal corresponding to the gas; and

comparing the second signal with a plurality of chemical matter characteristics signals to determine a second identification result for the gas.

6. (Original) The method of pulse-type gas concentration measurement according to claim 5, wherein the first identification result and the second identification result for the gas respectively comprise the concentration of respective constituents of the gas.

7. (Original) The method of pulse-type gas concentration measurement according to claim 5, wherein the chemical matter characteristics signals are obtained by:

disposing the sensor in a plurality of predetermined chemical matters and sending a variable pulse-modulated voltage to the sensor respectively, so that the sensor outputs each of the chemical matter characteristics signals corresponding to each of the predetermined chemicals; and

storing the chemical matter characteristics signals in a database.

8. (Original) The method of pulse-type gas concentration measurement according to claim 5, wherein the variable pulse is a pulse-modulated voltage.

9. (Original) The method of pulse-type gas concentration measurement according to claim 5, wherein the first signal comprises a pulse voltage signal.

10. (Original) The method of pulse-type gas concentration measurement according to claim 9, wherein the step of determining the detection voltage according to the first signal further comprises:

determining an ideal voltage related to a maximum voltage of the first signal from the variable pulse; and

determining the detection voltage as a voltage larger than the ideal voltage.

11. (Original) A method of pulse-type gas concentration measurement, comprising the steps of:

providing a sensor in a specific environment;

sending a variable pulse to the sensor, so that the sensor outputs a first signal corresponding to a plurality of gases in the specific environment;

comparing the first signal with a plurality of chemical matter characteristics signals to determine a first identification result for the gases;

determining at least one detection voltage according to the first signal, wherein each detection voltage corresponds to one of the gases;

sending at least one square-wave pulse with the detection voltage to the sensor, so that the sensor outputs at least one second signal corresponding to the gases; and

comparing the second signal with a plurality of chemical matter characteristics signals to determine a second identification result for the gases.

12. (Original) The method of pulse-type gas concentration measurement according to claim 11, wherein the first identification result for the gases comprises composition of the gases.

13. (Original) The method of pulse-type gas concentration measurement according to claim 12, wherein the second identification result for the gases comprises concentration of respective constituents of the gases.

14. (Original) The method of pulse-type gas concentration measurement according to claim 11, wherein the chemical matter characteristics signals are obtained by:

disposing the sensor in a plurality of predetermined chemical matter and sending a variable pulse-modulated voltage to the sensor respectively, so that the sensor outputs each of the chemical matter characteristics signals corresponding to each of the predetermined chemicals; and

storing the chemical matter characteristics signals in a database.

15. (Original) The method of pulse-type gas concentration measurement according to claim 11, wherein the variable pulse is a pulse-modulated voltage.

16. (Original) The method of pulse-type gas concentration measurement according to claim 11, wherein the first signal comprises a pulse voltage signal.

17. (Original) The method of pulse-type gas concentration measurement according to claim 16, wherein the step of determining at least one detection voltage according to the first signal further comprises:

determining at least one ideal voltage related to at least one maximum voltage of the first signal from the variable pulse; and

determining each detection voltage as a voltage larger than each ideal voltage.